

CLAIMS

1. A method of manufacturing a porous honeycomb structure, characterized by: mixing and kneading at least an aggregate particle material composed of a ceramic and/or 5 a metal, water, an organic binder, a pore former, and colloidal particles to form clay; forming the clay into a honeycomb shape having a plurality of cells constituting through channels of fluids; drying the clay to obtain a honeycomb formed body; calcining the honeycomb formed body 10 to form a calcined body; and thereafter firing the calcined body to obtain the porous honeycomb structure.

2. The method of manufacturing the porous honeycomb structure according to claim 1, wherein the clay contains 0.1 to 10 parts by mass of the colloidal particles with 15 respect to 100 parts by mass of the aggregate particle material.

3. The method of manufacturing the porous honeycomb structure according to claim 1 or 2, wherein the clay contains an alkali metal source corresponding to 0.01 to 10 20 parts by mass of an alkali metal in terms of the alkali metal with respect to 100 parts by mass of the aggregate particle material.

4. The method of manufacturing the porous honeycomb structure according to any one of claims 1 to 3, wherein 25 the aggregate particle material contains at least one type of component selected from a group consisting of a cordierite material, mullite, alumina, aluminum titanate,

lithium aluminum silicate, silicon carbide, silicon nitride, and metal silicon, and a total of the mass of the component occupies 50% by mass or more with respect to a total mass of the aggregate particle material.

5       5. A honeycomb formed body characterized by comprising: clay containing at least an aggregate particle material composed of a ceramic and/or a metal, water, an organic binder, a pore former, and colloidal particles, the clay being formed into a honeycomb shape having a plurality 10      of cells constituting through channels of fluids.

6.       The honeycomb formed body according to claim 5, wherein the clay contains 0.1 to 10 parts by mass of the colloidal particles with respect to 100 parts by mass of the aggregate particle material.

15      7. The honeycomb formed body according to claim 5 or 6, wherein the clay contains an alkali metal source corresponding to 0.01 to 10 parts by mass of an alkali metal in terms of the alkali metal with respect to 100 parts by mass of the aggregate particle material.

20      8. The honeycomb formed body according to any one of claims 5 to 7, wherein the aggregate particle material contains at least one type of component selected from a group consisting of a cordierite material, mullite, alumina, aluminum titanate, lithium aluminum silicate, silicon carbide, silicon nitride, and metal silicon, and a total of 25      the mass of the component occupies 50% by mass or more with respect to a total mass of the aggregate particle material.